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INTRA-CRANIAL NEURECTOMY OF SECOND AND
THIRD DIVISIONS OF FIFTH NERVE.

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presented by the author

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INTRA-CRANIAL NEURECTOMY OF THE SECOND
AND THIRD DIVISIONS OF THE FIFTH NERVE
IMMEDIATELY IN FRONT OF THE
GASSERIAN GANGLION.

By JOHN B. ROBERTS, M.D.

[Reported November 23, 1892.]



I REPORT this case partly on account of its novelty and partly on account of the apparent success of the operation. The patient is a man seventy-six years of age, on whom I operated about two years ago for frightful neuralgia, which affected the first and second branches of the fifth cranial nerve. He had been operated on previously without success. I removed the supra-orbital and infra-orbital nerves at their anterior foramina, chiselling away the lower part of the orbit in order to tear off the latter nerve as far back as possible. He had a period of comfort for perhaps a year, when the disease returned. He was then operated on, I think, by Dr. John B. Deaver. I do not know what Dr. Deaver did, but I believe that he cut out the cicatrix. The man came to see me again a year ago, and I decided to ligate the primitive carotid, which has been recommended in some of these cases, and which I had found satisfactory in a case operated on six months previously. I operated last November, tying the primitive carotid with catgut. He was discharged at the end of three weeks suffering no pain.

He again began to suffer and has appeared at my office two or three times in the last three or four months. His pain was so great that I decided to attempt the removal of the Gasserian ganglion. I had long made up my mind that the route advised by Rose, of England, of cutting away the coronary process of the lower jaw and the zygoma, and trephining from below, was an operation of great severity; and although he has reported several cases of cure, I had about made up my mind that I would not try it. In March of this year I saw the description of the operation proposed by Hartley, of New York, which is somewhat similar to that of Horsley. An opening is made by Horsley in the temporal region, the dura mater opened, and by getting under the temporal lobe, the fifth nerve is cut off at the pons and the ganglion also removed. The case on which this operation was done, died. When I saw Hartley's operation described, it seemed to me that it presented the better method, and I determined that I would adopt it in a case where such operation was indicated.

Four days ago I made an omega-shaped incision, beginning at the external angular process of the left side, ascending to the temporal ridge and coming down at the tragus. With a sharp chisel I cut through bone in the same line; above, going down to the dura mater, but below through to the diploë only. With a lever the bone, muscle, and integument were turned down over the zygoma as an osteo-cutaneous flap. This exposed the dura mater and the middle meningeal artery. The trunk of the artery was not torn because it ran in a groove and not in a foramen at the angle of the parietal bone. A small opening in an upper branch was bleeding, and was secured by two sutures passed above and below the opening. The dura mater was next separated from the base of the skull and the foramen rotundum exposed. I was surprised at the ease with which I could press the brain over to the right to make room for my manipulations. As I pressed upon the brain the man's left hand—that is, on the same side as the operation—went into a state of tonic contraction or spasm, which disappeared as soon as the extreme pressure was stopped. With a tenotome I cut off the second division of the fifth nerve, which was the one that gave pain, close to the round foramen, and endeavored to follow it back to the ganglion. I was unwise in using a blunt pointed tenotome, dissecting backward along the nerve, for before I got through the dura I cut or tore the nerve off close to its attachment to the ganglion. This made me lose my landmarks, and I could no longer trace my way back by holding on to the nerve with forceps. I then cut off the third division at the oval foramen, and again made the attempt to dissect up to the ganglion, but practically the same thing happened. During this time there was a good deal of bleeding, probably from the petrosal sinus, but by changing the position of the patient's head the blood did not obscure the field, and with the electric light and head-mirror, I had a good view. After spending considerable time I concluded, after consultation with my colleagues, that I had probably done enough, without uncovering and removing the Gasserian ganglion. I had excised the painful nerve (the second division) from close in front of the ganglion to the round foramen, and had pushed the distal end of the nerve forward into the canal. I had also excised the third division from the Gasserian ganglion to the oval foramen and pushed the distal stump into its canal in the same manner. The flaccidity of the dura rendered it a little difficult to cut through the layer covering the ganglion with accuracy. The use of a uterine tenaculum to make the dura tense would probably have helped me.

I allowed the brain to come back into place, shut down the lid of bone, and sutured the skin, using no drainage. The eyelids of the left eye had been sewed together before the operation lest corneitis might develop after removal of the ganglion.

The patient has done so extraordinarily well that I can hardly believe it myself. He has not had a bad symptom; there has been no paralysis, no aphasia, and he has needed no anodyne. This is the fourth day. The pulse is 72, respiration 17, and temperature 98.4°. There has been no neuralgic pain. He has the same "queer" sensation in the infra-orbital region which he had after ligation of the carotid artery, and which soon disappeared. On the second day I found him slightly propped up in bed reading the paper. He catheterizes himself three or four times a day, being the subject of old bladder

disease, and is doing perfectly well. The portions of the nerves removed are shown in the bottle which I have passed around.

NOTE.—It is now eighteen days since the operation, and the wound is entirely healed by first intention. The man is well, except that he complains of headache. This is probably due to the aseptic cerebral inflammation at the seat of traumatism. He is up, goes out, and has normal respiration, pulse, and temperature. He reads, talks, and seems the same as before operation, except that he is relieved of the torturing neuralgic pain, and has the dull headache. He complains of an "ugly" feeling at times in the cheek. It is not at all the pain he had previously. After this report was written it was noticed that he could not recall the names of the city streets and of the physicians. This was probably an aphasic symptom, and it is now improving, being scarcely noticeable.

